INSTALLATION

EH2500 Series
Dust-Tight Enclosure

C1473M-E (9/08)

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Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Only use attachments/accessories specified by the manufacturer.
6. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
7. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
8. Installation should be done only by qualified personnel and conform to all local codes.
9. Unless the unit is specifically marked as a NEMA Type 3, 3R, 3S, 4, 4X, 6, or 6P enclosure, it is designed for indoor use only and it must not be installed where exposed to rain and moisture.
10. Use only installation methods and materials capable of supporting four times the maximum specified load.
11. Use stainless steel hardware to fasten the mount to outdoor surfaces.
12. AN ALL-POLE MAINS SWITCH with a contact separation of at least 3 mm in each pole shall be incorporated in the electrical installation of the building.
13. Use UL Listed cameras not to exceed 5 watts.
14. Only use replacement parts recommended by Pelco.
15. **CAUTION:** These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other that contained in the operating instructions unless you are qualified to do so.

The product and/or manual may bear the following marks:

This symbol indicates that dangerous voltage constituting a risk of electric shock is present within this unit.

This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

CAUTION:
RISK OF ELECTRIC SHOCK. DO NOT OPEN.

Please thoroughly familiarize yourself with the information in this manual prior to installation and operation.

Description

The EH2500 Series enclosures are sealed, dust-tight, and waterproof camera enclosures designed to protect a camera and lens from adverse environmental conditions.

The EH2500 Series feature a sled for camera mounting and a "T" handle on the rear plate to assist in removing the rear plate during installation and servicing.

All models will accept CCD cameras with fixed focal length or motorized zoom lenses.

MODELS

EH2508	Indoor/outdoor enclosure, 8-inch (20.32 cm) length
EH2508-1/-2/-3	Same as EH2508 except has 120/24/230 VAC heater
EH2512	Indoor/outdoor enclosure, 12-inch (30.48 cm) length
EH2512-1/-2/-3	Same as EH2512 except has 120/24/230 VAC heater
EH2515	Indoor/outdoor enclosure, 15-inch (38.10 cm) length
EH2515-1/-2/-3	Same as EH2515 except has 120/24/230 VAC heater

Installation

The following items are supplied:

Qty	Description
1	EH2500 Series enclosure
1	Hex wrench, 3/32-inch (Pelco # ZT-ALLEN3/32)
1	Hex wrench, 5/64-inch (Pelco # ZT-ALLEN5/64)
1	1/4 x 1-inch O.D. fender washer
1	Desiccant bag
2	1/4-20 x 0.375-inch Phillips pan head screws and flat washers (for camera mounting; only one screw and washer are required)
1	Installation manual (C1473M)

ENCLOSURE MOUNTING

The enclosure can be mounted to a wall, ceiling, or pedestal mount. It can also be mounted to a pan/tilt. For proper installation, refer to the instructions supplied with the mount or pan/tilt. The enclosure should be attached to the mount or pan/tilt with a minimum of two 1/4-20 fasteners (not supplied).

⚠ **WARNING:** If you are installing the enclosure outdoors, avoid mounting it at a downward angle to prevent water from entering the enclosure. Always use a service loop, as shown in Figure 1 and Figures 2, 3, and 4 on page 7 to further prevent water leakage.

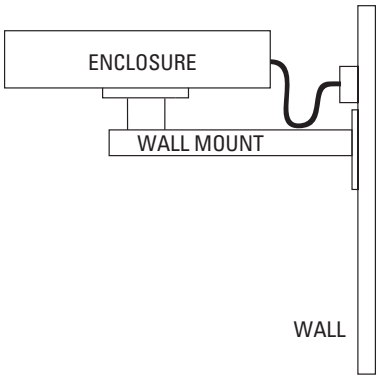


Figure 1. Typical Fixed Wall Mounting

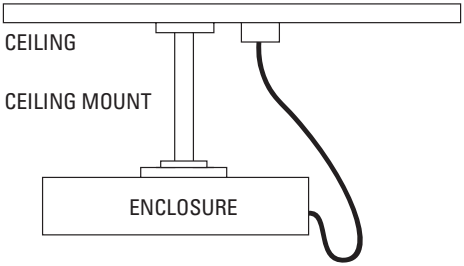


Figure 2. Typical Fixed Ceiling Mounting

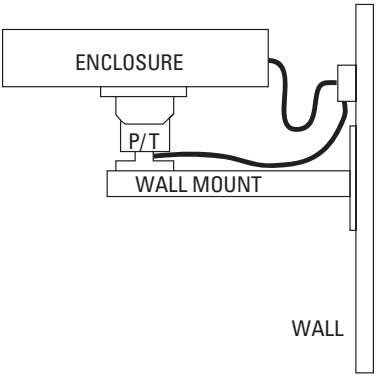


Figure 3. Typical Pan/Tilt Wall Mounting

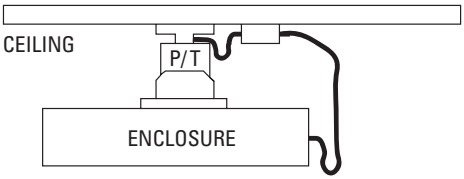


Figure 4. Typical Pan/Tilt Ceiling Mounting

CAMERA AND LENS INSTALLATION

To install the camera and lens, perform the following steps:

1. Use the supplied 5/64-inch hex wrench and loosen the screws located on the back of the enclosure.
2. Pull on the "T" handle and slide the camera sled out of the enclosure.

   ⚠ **WARNING:** If you have a model with a heater, disconnect the heater wiring connectors before removing the camera sled from the enclosure. Damage to the heater wires may occur if the sled is pulled out too far before the wiring connectors are separated.

3. Mount the camera and lens onto the camera sled:
   a. Extend the lens to the maximum length before positioning the camera and lens.
   b. Position the camera and lens so that they do not extend beyond the track.
   c. Attach the camera and lens to the camera sled with the supplied fender washer, and one 1/4-20 x 0.375-inch Phillips pan head screw and washer.

POWER AND CAMERA CONNECTIONS

NOTE: To prevent the entrance of dust or water, proper cabling must be used when wiring the enclosure. Use of a flat cable or multiple cables will prevent the proper seal of the liquidtight gland connectors. Outdoor-rated sheathing should cover multiple cables. It is especially important that you seal an unused gland connector.

To make all power and camera connections, follow the steps below:

1. If the enclosure has a heater, refer to Table A on page 9 for total wattage, which includes camera wattage. Maximum camera input voltage must not exceed 240 VAC, and maximum camera power consumption must not exceed 5 W.
2. Determine the size of the wire needed. If you are using 24 VAC, refer to Table B on page 9.
3. Pull the power wires for the heater and camera into the enclosure.
4. Connect the enclosure input power, camera input power, and video cable (refer to , , and Table C on page 10).

NOTES:

- The wiring diagram in (24 VAC) and (120/230 VAC) are for applications where the input voltage for the enclosure and camera are different. For example, the enclosure input voltage is 120 VAC and the camera input voltage is 24 VAC.
- Be sure to route the wiring to maintain separation between 120/230 VAC, 24 VAC, and video wiring.
- However, you may have an application where the input voltage for the enclosure and camera are the same. For example, the enclosure input voltage is 120 VAC and the camera input voltage is 120 VAC. In applications where the input voltage for the enclosure and camera are the same, wire the terminal block as follows:

– Connect the input power for the enclosure to terminal 3 (AC LINE) and terminal 4 (AC NEUTRAL).

– Connect a jumper wire from terminals 1 to 3 and a jumper wire from terminals 2 to 4.

5. Connect the ground wire for the enclosure power to the ground stud on the back of the enclosure.
6. Attach the wires from the camera to the 2-pin camera power connector (supplied). Connect the two camera power connectors together.
7. If the camera input voltage is 120 VAC/230 VAC, ground the camera to the ground stud located on the camera sled.

Table A. Total Wattage Values

Model	Voltage	Maximum Power Consumption*
EH2508-1	120	41
EH2508-2	24	38
EH2508-3	230	43
EH2512-1	120	41
EH2512-2	24	38
EH2512-3	230	43
EH2515-1	120	41
EH2515-2	24	38
EH2515-3	230	43

*Maximum power consumption includes 5 W for the camera.

Tables B and C show the recommended maximum distances for 24 VAC applications; the values are calculated with a 10 percent voltage drop. (Ten percent is generally the maximum allowable voltage drop for AC-powered devices.)

Table B. 24 VAC Wiring Distances

Wire Gauge							Maximum distance from transformer to load
Total VA	20 (0.5 mm^2)	18 (1.0 mm^2)	16 (1.5 mm^2)	14 (2.5 mm^2)	12 (4.0 mm^2)	10 (6.0 mm^2)	
10	283 (86)	451 (137)	716 (218)	1142 (348)	1811 (551)	2880 (877)	
20	141 (42)	225 (68)	358 (109)	571 (174)	905 (275)	1440 (438)	
30	94 (28)	150 (45)	238 (72)	380 (115)	603 (183)	960 (292)	
40	70 (21)	112 (34)	179 (54)	285 (86)	452 (137)	720 (219)	
50	56 (17)	90 (27)	143 (43)	228 (69)	362 (110)	576 (175)	

Table C. Video Coaxial Cable Requirements

Cable Type*	Maximum Distance
RG59/U	750 ft (229 m)
RG6/U	1,000 ft (305 m)
RG11/U	1,500 ft (457 m)

*Cable requirements:
75-ohm impedance
All-copper center conductor
All-copper braided shield with 95% braid coverage

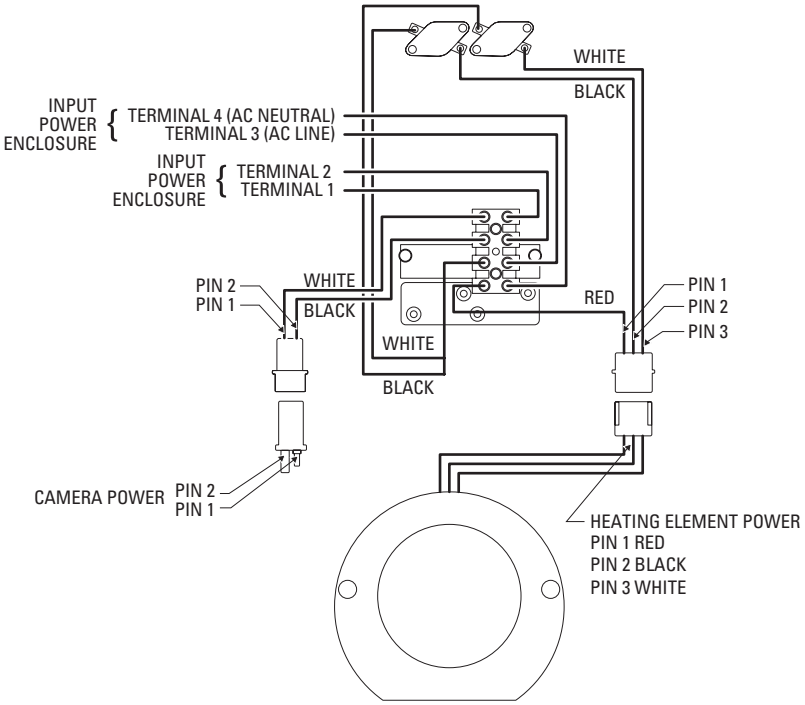


Figure 5. Enclosure Input Voltage 24 VAC

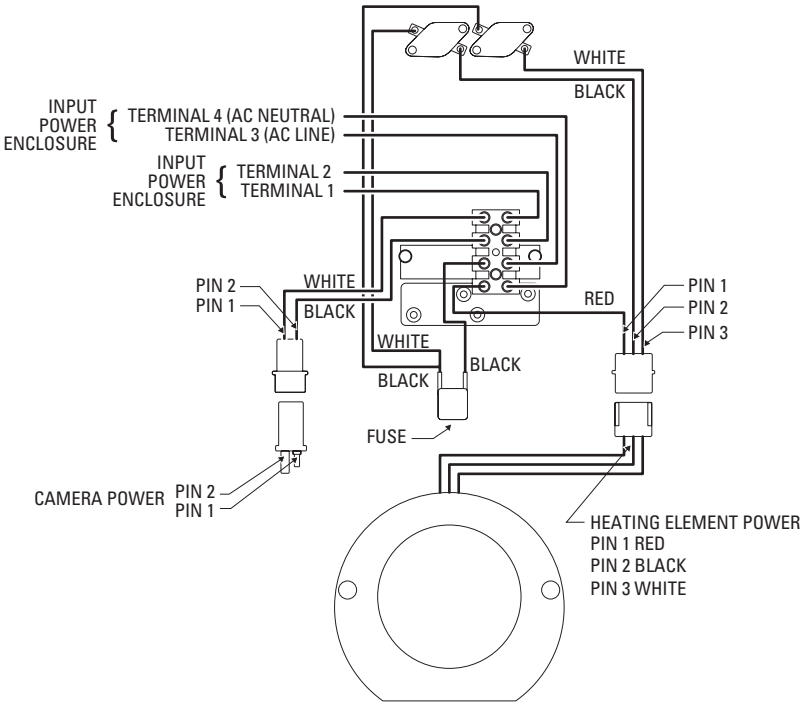


Figure 6. Enclosure Input Voltage 120/230 VAC

REASSEMBLE THE ENCLOSURE

1. Place the desiccant bag in the enclosure.
2. Slide the camera sled back into the enclosure.
3. Reinstall the screws in the rear plate.

MAINTENANCE

Regularly scheduled maintenance is not required. Clean the outer surface of the enclosure with a nonabrasive cleaning cloth and antistatic cleaner. Clean the viewing window with a mild nonabrasive soap and water to maintain picture clarity.

⚠ **WARNING:** Do not use kerosene or similar substances that may damage the surface.

Specifications

MECHANICAL

Camera Mounting	Multiple mounting holes on removable camera sled
Latching	2 captivated screws
Maximum Camera/Lens Size	Accepts camera and lens combinations (including BNC connector) up to the following dimensions:
EH2508	6.25" L x 2.75" W x 2.75" H (15.88 x 6.99 x 6.99 cm)
EH2508-1/-2/-3	5.25" L x 2.75" W x 2.75" H (13.34 x 6.99 x 6.99 cm)
EH2512	10.25" L x 2.75" W x 2.75" H (26.04 x 6.99 x 6.99 cm)
EH2512-1/-2/-3	9.25" L x 2.75" W x 2.75" H (23.50 x 6.99 x 6.99 cm)
EH2515	13.25" L x 2.75" W x 2.75" H (33.66 x 6.99 x 6.99 cm)
EH2515-1/-2/-3	12.25" L x 2.75" W x 2.75" H (31.12 x 6.99 x 6.99 cm)
Viewing Window	2.50" (6.35 cm) diameter, 0.375" (0.95 cm) thick Lexan®
Cable Entry	2 liquid-tight gland connectors

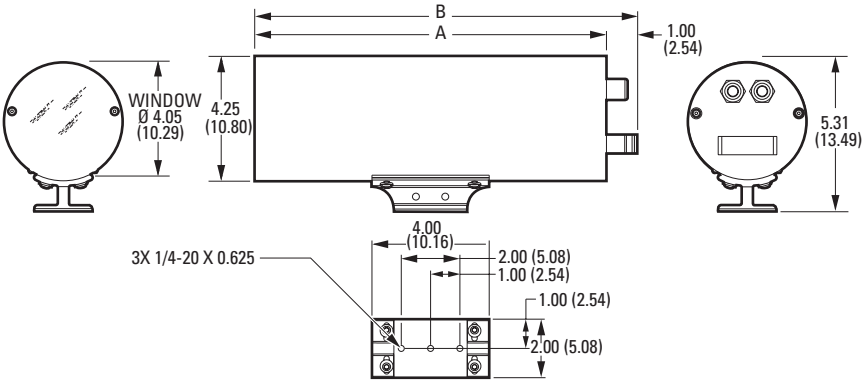
ELECTRICAL

Input Voltage	120 VAC, 24 VAC, 230 VAC for heater
Connector	Terminal block, 4-position
Heater	120/24/230 VAC, dual elements, thermostatically controlled
	Heater operates as a defogger; activates ON at 70°F (21°C), OFF at 85°F (29°C)
	Heater operates as a defroster; activates ON at 40°F (4°C), OFF at 67°F (19°C)

GENERAL

Construction	Aluminum
Finish	Gray polyester powder coat
Environment	Indoor/outdoor
Operating Range	-50° to 122°F (-46° to 50°C)
Unit Weight	
EH2508	2.95 lb (1.34 kg)
EH2508-1/-2/-3	3.10 lb (1.41 kg)
EH2512	3.75 lb (1.70 kg)
EH2512-1/-2/-3	3.90 lb (1.77 kg)
EH2515	4.63 lb (2.10 kg)
EH2515-1/-2/-3	4.83 lb (2.19 kg)

(Design and specifications are subject to change without notice.)



	A	B
EH2508	8.00 (20.32)	9.00 (22.86)
EH2512	12.00 (30.48)	13.00 (33.02)
EH2515	15.00 (38.10)	16.00 (40.64)

NOTE: VALUES IN PARENTHESES ARE CENTIMETERS; ALL OTHERS ARE INCHES.

REVISION HISTORY

Manual #	Date	Comments
C1473M	1/98	Original version.
C1473M-A	9/98	Rev. A. Completely revised. Removed Section 2.2, Options. Revised wiring instructions to clarify wiring with the same power input and wiring with different power input per ECO 98-3780. Revised Figure 5, EH2500 Series Wiring Diagram, per ECO 98-3879 to show more descriptive labeling of individual functions. Removed Section 3.4, Sun Shroud Installation and Section 7.0, Exploded Assembly Diagram. Created Sun Shroud manual (C1474M) and Service/Maintenance manual (C1473SM).
	7/00	Revised Figure 5 for new heater elements per ECO 00-6032. Removed Table A and Troubleshooting section. Changed to new format.
C1473M-B	10/04	Revised camera and lens installation per ECO 04-9848. Product redesigned to fit CC3610/ CC3710/CC3770/MC3610/MC3710 Series cameras. Updated layout to new format.
C1473M-C	4/05	Revised wiring connections and diagram per ECO 04-10623.
C1473M-D	12/05	Added item 13 to *Important Safety Instructions*. Added Table A. Added warning about mounting angle to *Installation*.
C1473M-E	9/08	Revised wiring diagrams to show rotated terminal block per CN21614.

PRODUCT WARRANTY AND RETURN INFORMATION

WARRANTY

Pelco will repair or replace, without charge, any merchandise proved defective in material or workmanship **for a period of one year** after the date of shipment.

Exceptions to this warranty are as noted below:

- Five years on fiber optic products and TW3000 Series unshielded twisted pair (UTP) transmission products.
- Three years on Spectra® IV products.
- Three years on Genex® Series products (multiplexers, server, and keyboard).
- Three years on DX Series digital video recorders, DVR5100 Series digital video recorders, Digital Sentry® Series hardware products, DVX Series digital video recorders, NVR300 Series network video recorders, and Endura® Series distributed network-based video products.
- Three years on Camclosure® and Pelco-branded fixed camera models, except the CC3701H-2, CC3701H-2X, CC3751H-2, CC3651H-2X, MC3651H-2, and MC3651H-2X camera models, which have a five-year warranty.
- Three years on PMCL200/300/400 Series LCD monitors.
- Two years on standard motorized or fixed focal length lenses.
- Two years on Legacy®, CM6700/CM6800/CM9700 Series matrix, and DF5/DF8 Series fixed dome products.
- Two years on Spectra III™, Spectra Mini, Esprit®, ExSite®, and PS20 scanners, including when used in continuous motion applications.
- Two years on Esprit Ti and TI2500 Series thermal imaging products.
- Two years on Esprit and WW5700 Series window wiper (excluding wiper blades).
- Two years (except lamp and color wheel) on Digital Light Processing (DLP®) displays. The lamp and color wheel will be covered for a period of 90 days. The air filter is not covered under warranty.
- Two years on Intelli-M® eIDC controllers.
- One year (except video heads) on video cassette recorders (VCRs). Video heads will be covered for a period of six months.
- Six months on all pan and tilts, scanners, or preset lenses used in continuous motion applications (preset scan, tour, and auto scan modes).

Pelco will warrant all replacement parts and repairs for 90 days from the date of Pelco shipment. All goods requiring warranty repair shall be sent freight prepaid to a Pelco designated location. Repairs made necessary by reason of misuse, alteration, normal wear, or accident are not covered under this warranty.

Pelco assumes no risk and shall be subject to no liability for damages or loss resulting from the specific use or application made of the Products. Pelco's liability for any claim, whether based on breach of contract, negligence, infringement of any rights of any party or product liability, relating to the Products shall not exceed the price paid by the Dealer to Pelco for such Products. In no event will Pelco be liable for any special, incidental, or consequential damages (including loss of use, loss of profit, and claims of third parties) however caused, whether by the negligence of Pelco or otherwise.

The above warranty provides the Dealer with specific legal rights. The Dealer may also have additional rights, which are subject to variation from state to state.

If a warranty repair is required, the Dealer must contact Pelco at (800) 289-9100 or (559) 292-1981 to obtain a Repair Authorization number (RA), and provide the following information:

1. Model and serial number
2. Date of shipment, P.O. number, sales order number, or Pelco invoice number
3. Details of the defect or problem

If there is a dispute regarding the warranty of a product that does not fall under the warranty conditions stated above, please include a written explanation with the product when returned.

Method of return shipment shall be the same or equal to the method by which the item was received by Pelco.

RETURNS

To expedite parts returned for repair or credit, please call Pelco at (800) 289-9100 or (559) 292-1981 to obtain an authorization number (CA number if returned for credit, and RA number if returned for repair) and designated return location.

All merchandise returned for credit may be subject to a 20 percent restocking and refurbishing charge.

Goods returned for repair or credit should be clearly identified with the assigned CA or RA number and freight should be prepaid.

Green The materials used in the manufacture of this document and its components are compliant to the requirements of Directive 2002/95/EC.

This equipment contains electrical or electronic components that must be recycled properly to comply with Directive 2002/96/EC of the European Union regarding the disposal of waste electrical and electronic equipment (WEEE). Contact your local dealer for procedures for recycling this equipment.

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